

## WHAT IS CLAIMED IS:

### 1. Structure of a wave filter, comprising

5 a circuit board including a substrate, and electronic parts on the substrate; the substrate having a connecting head, and a lead respectively secured to two ends thereof by means of solder welding;

a metallic holding tube having a first end portion, and a fitting end portion at other end; the first end portion having screw threads on an outer side thereof, and an insulating ring fitted therein; the fitting end  
10 portion having an annular groove on an outer side thereof, and a leak-stoppage ring fitted onto the annular groove; and

a metallic cap having first and second tube-shaped end portions at two ends thereof; the cap having a separating part disposed between the tube-shaped end portions and secured to an inner side thereof; the cap  
15 having an insulating ring secured within the separating part thereof; the second tube-shaped end portion having screw threads on an inner side;

the circuit board being held in the holding tube with the connecting head being received in the threaded first end portion of the holding tube; the substrate being secured to an inner side of the holding tube by means  
20 of solder welding such that the circuit board is grounded;

the fitting end portion of the holding tube being tightly fitted in the first tube-shaped end portion of the cap such that the leak-stoppage ring is tightly sandwiched between the cap and the holding tube; the lead of

the circuit board passing through the insulating ring of the cap, and projecting outwards from the cap.

## 2. Structure of a wave filter, comprising

a circuit board including a substrate, and electronic parts on the  
5 substrate; the substrate having a connecting head, and a lead respectively  
secured to two ends thereof by means of solder welding; a metallic  
holding tube having a first end portion, and a fitting end portion at other  
end; the first end portion having screw threads on an outer side thereof,  
and an insulating ring fitted therein; and a metallic cap having first and  
10 second tube-shaped end portions at two ends thereof; the cap having a  
separating part disposed between the tube-shaped end portions and  
secured to an inner side thereof; the cap having an insulating ring  
secured within the separating part thereof; the second tube-shaped end  
portion having screw threads on an inner side; the circuit board being  
15 held in the holding tube with the connecting head being received in the  
threaded first end portion of the holding tube; the fitting end portion of  
the holding tube being tightly fitted in the first tube-shaped end portion  
of the cap; the lead passing through the insulating ring of the cap, and  
projecting outwards from the cap; and having characteristics that the  
20 fitting end portion of the holding tube has an annular groove on an outer  
side, and that a leak-stoppage ring is fitted onto the annular groove such  
that the leak-stoppage ring is tightly sandwiched between the cap and the  
holding tube.

### 3. Structure of a wave filter, comprising

a circuit board including a substrate, and electronic parts on the substrate; the substrate having a connecting head, and a lead respectively secured to two ends thereof by means of solder welding;

- 5        a metallic cap having first and second tube-shaped end portions at two ends thereof; the cap having a separating part disposed between the tube-shaped end portions and secured to an inner side thereof; the cap having an insulating ring secured within the separating part thereof; the first tube-shaped end portion having an annular groove on an outer side  
10 thereof, and a leak-stoppage ring fitted onto the annular groove; the second tube-shaped end portion having screw threads on an inner side;

a metallic holding tube having a first end portion, and a fitting end portion at other end; the first end portion having screw threads on an outer side thereof, and an insulating ring fitted therein;

- 15        the substrate of the circuit board being partially held in the first tube-shaped end portion of the cap with the lead passing through the insulating ring of the cap, and projecting outwards from the cap;

- the fitting end portion of the holding tube being tightly fitted around the first tube-shaped end portion of the cap such that the  
20 leak-stoppage ring is tightly sandwiched between the cap and the holding tube, and such that the connecting head is received in the threaded first end portion of the holding tube.

### 4. Structure of a wave filter, comprising

a circuit board including a substrate, and electronic parts on the substrate; the substrate having a connecting head, and a lead respectively secured to two ends thereof by means of solder welding;

5        a metallic cap having first and second tube-shaped end portions at two ends thereof; the cap having a separating part disposed between the tube-shaped end portions and secured to an inner side thereof; the cap having an insulating ring secured within the separating part thereof; the first tube-shaped end portion having an annular groove on an outer side  
10 thereof, and a leak-stoppage ring fitted onto the annular groove; the second tube-shaped end portion having screw threads on an inner side;

a metallic holding tube having a first end portion, and a fitting end portion at other end; the first end portion having screw threads on an outer side thereof, and an insulating ring fitted therein;

15        the substrate of the circuit board being partially held in the first tube-shaped end portion of the cap with the lead passing through the insulating ring of the cap, and projecting outwards from the cap; the substrate being secured to an inner side of the first tube-shaped end portion of the cap by means of solder welding such that the circuit board  
20 is grounded;

the fitting end portion of the holding tube being tightly fitted around the first tube-shaped end portion of the cap such that the leak-stoppage ring is tightly sandwiched between the cap and the holding

tube, and the connecting head is received in the threaded first end portion of the holding tube.

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